

# UltraAV® HDMI 4x4 Matrix and Distribution Amplifier

**Model Number:**  
K072C-013B



## READ ME FIRST – SETUP INSTRUCTIONS

Thank you for purchasing the Accell UltraAV HDMI Distribution Amplifier. This product is designed to provide an exceptional performance and value. Please review the manual before operating and retain for future reference.

### - CAUTION -

1. Ensure the unit has sufficient ventilation. Do not cover ventilation openings. Do not install in a confined space.
2. Do not operate near source of heat. Do not stack on top, underneath or between other heat generating unit/s including other amplifiers.
3. Unplug power adapter if not used for an extended period.
4. To prevent damage from power surges, the unit should be plugged

into a surge protector or surge protected power source.

5. Do not use near liquid or areas of heavy moisture.
6. Clean unit with a clean and dry cloth only.
7. This unit cannot be serviced in the field. Contact Accell if service is required.
8. Do not open case, risk of shock - shock hazard.
9. Do not modify power cord or use the product if the power cord is damaged.

## Introduction

The UltraAV 4x4 HDMI Matrix and Distribution Amplifier accepts signals from up to 4 HDMI enabled audio/video sources and distributes the signal to up to 4 HDMI enabled displays. The matrix can be configured to send any input to any HDMI displays, monitors, projectors or TV's.

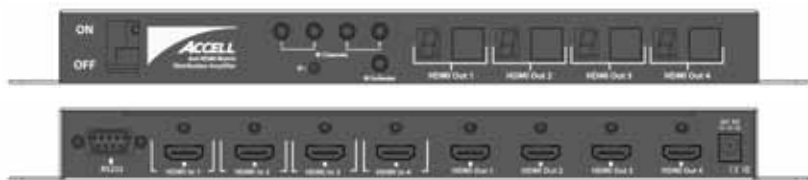
### Over-Current and Over-Voltage Protection

The circuit boards are equipped with both over-current and over-voltage protection and will automatically power down if encountered. The circuit boards will restore automatically once the excessive current or voltage has passed.

### Package Contents

- HDMI Distribution Amplifier (Matrix)
- Remote Control (with battery)
- CD-ROM (for RS-232 control)
- Power Adapter
- Owner's Manual

## HDMI 4x4 Matrix and Distribution Amplifier Model: K072C-013B



## Specifications

- Independently access 4 HDMI Sources from 4 HDMI Displays
- Supports HD resolutions up to 1080P and 3D
- HDMI 1.4a, HDCP 1.2 compliant
- Input video signal: 5v p-p, Input DDC signal: 5v p-p (TTL)
- Data transfer speed of 6.75Gbps (2.25Gbps/channel)
- Audio formats supported: DTS-HD 7.1, Dolby True-HD 7.1
- Deep color up to 36-bit
- RS232 Port for control
- Maximum input cable length: Up to 20m (24AWG)
- Maximum output cable length: Up to 20m (24AWG)
- Shelf or surface mountable
- 5V DC, UL Listed power adapter
- Approximate dimensions: 10.9"W x 1.1"H x 6.1"D
- 277W x 28H x 156D mm
- Operating temperature range: 5 to 131°F (-15 to 55°C)
- Operating humidity range: 5% to 90% RH (no condensation)

## Setup

With the matrix power switch in the OFF position, connect an HDMI High Speed cable from the HDMI Output of the most commonly used audio/video source to the HDMI Input 1 located on the rear of the matrix. Similarly, connect the remaining source devices to the HDMI Input Ports on the matrix.

**Tips: Use the shortest length HDMI cables possible in each point in the installation. Use only High Quality and High Speed HDMI cables.**

Next, connect an HDMI cable to the HDMI Output Port 1 on the rear of the matrix. Connect the other end to the HDMI Input Port of the display device. Similarly, connect the remaining HDMI Output Ports from the matrix to the other displays.

**The matrix has internal memory that stores the system information for faster switching. Please follow the steps in the order listed:** Turn ON the displays and ensure they are awake (not in standby mode). Check the displays INPUT setting to ensure the correct HDMI port is active.

Turn on the source devices and ensure they are awake (not in standby mode). Connect the power adapter to the matrix. Plug the power adapter into a surge protected AC power outlet. Turn the matrix power switch to the ON position.

The matrix has a low power draw and is intended to be left on. If the matrix is turned off, start up the system as noted above. If new hardware is added, please perform a RESET.

To RESET the matrix, turn off the display and source devices. Power off the matrix and unplug the power adapter from the rear of the matrix. Wait 20 minutes for the memory of the system configuration inside of the matrix to be deleted. Follow the setup instructions above to correctly initiate the setup.

## LED Indicator Lights

On initial power on, all LED lights on the matrix should come on solid blue. All the numerical LED displays will momentarily read '0' and then change to '1'. If less than the maximum number of Displays are connected to the matrix (not all the outputs are used) the numerical indicator will indicate '0' for that output and there will be no corresponding **HDMI OUT** blue LED for the unused output. Blue lights will only appear for devices connected. Any unused HDMI Input ports will also have its **HDMI IN** blue LED unlit.

## Operation

**Manual Control:** You can operate HDMI source switching manually by using the buttons labeled 'Out' located on the front panel. Press the button that corresponds to the output that you want to change the HDMI source on and toggle through until the desired HDMI input source video is being displayed. A numerical LED indicates which HDMI source input is being shown on each output (HDTV).

**Remote Control:** Included with the Matrix is a Remote Control. The remote control can control the matrix by pointing it at the front of the matrix, targeting the integrated IR receiver labeled **IR**. IR uses line-of-sight between the remote control (or IR-TX) and the receiver. The angle which the remote will work is at about a 15° degree angle in either direction to the receiver. If the receiver is positioned such that there is not line-of-sight, the port labeled "IR Extender" accepts an optional IR Receiver. This receiver enables line-of-sight if the matrix is out of position.

RS-232 Control Port (4x4 HDMI Matrix)

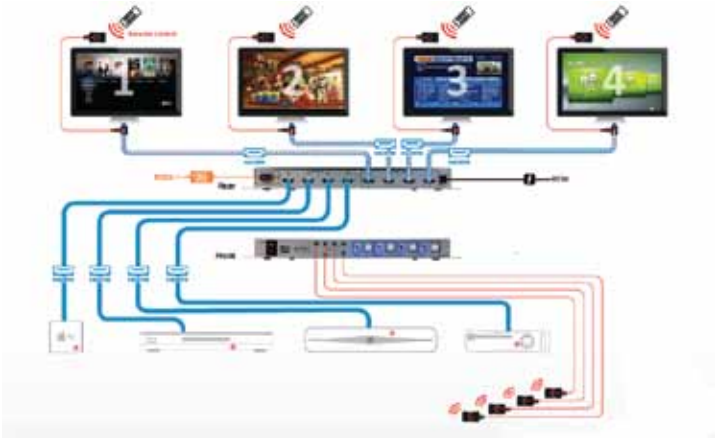
The RS-232 port located on the 4x4 HDMI Matix provides control similiar to the remote control from a remote device. A correctly configured RS232 cable is required. Connect the RS232 cable end to your PC Serial port (default =COM 1). The other end to HDMI Matrix RS232 port.

Place the included CD-ROM into your computer CD-ROM drive. Go to the CD-ROM drive and double-click the "HDMI FamilySetupB.exe" file to install the command configuration application. The HEX codes and settings, RS-232 cable configuration as well as additional details on the usage of the application are included in PDF file format on the CD. Open the CD and locate the PDF file. To open/read use Adobe Acrobat Reader.

Infrared Control (IR)

The Ultra-IR Adapter Kit (optional) enables the user to control the source device from the location of the display. The HDMI cable, at the display end, plugs into the IR Adapter. Next the adapter's HDMI connector plugs into the display. The adapter has a port that accepts an optional IR receiver (IR-RX). When the IR-RX receives an IR signal from the remote control, it uses the HDMI cable's CEC line to send the signal to the switch. The switch has an IR port that accepts the optional IR transmitter (IR-TX). The IR-TX sends the signal to the source device.


Note: As the Ultra-IR Adapter uses the CEC channel of the HDMI cable, the CEC function cannot be used when using this device. Turn off CEC or HDMI Link functionality in the source devices and displays.



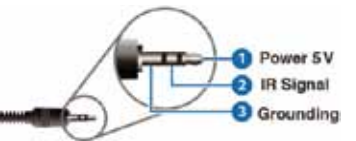
The front panel of the matrix has ports labeled **IR Channels**. Each IR port can accept an IR Transmitter (IR-TX). Each IR-TX can send an IR control signal to a source device. The IR-Channel ports are numbered, corresponding to the matrix's HDMI Output. Using the optional Ultra-IR Adapter Kit PN: B164B-001B, the IR-Adapter would be plugged into the display side of the HDMI cable that is plugged into HDMI Output 1. An IR Receiver (IR-RX) would be plugged into the IR-Adapter. Plug an IR-TX into the IR Channel 1 port. Position the end of the IR-TX towards the source device you want to control. For control from the other display (Output) locations, multiple IR-Adapter kits can be used. One IR-RX can be used per display.

To control multiple source devices with one IR-TX, stack the sources together and position the IR-TX so that all the source devices can receive the IR signal (Blast) from the IR-TX.


The port labeled "IR Extender" accepts an optional IR Receiver, taking commands from the included matrix remote control. This receiver enables line-of-sight if the matrix with its built-in IR receiver, labeled on the front panel as **IR**, is not visable.



Ultra-IR Kit: PN: B164B-001B  
Includes IR Adapter: 1 pc.  
IR Transmitter (5 ft.): 1 pc.  
Dual Frequency: 38KHZ-60KHZ  
IR Receiver (5 ft.): 1 pc.



Ultra-IR Receiver and Transmitter Pin Assignment



Ultra-IR Receiver (5 ft.)  
Dual Frequency: 38KHZ-60KHZ  
PN: B164B-002B

Ultra-IR Transmitter (5 ft.)  
Dual Frequency: 38KHZ-60KHZ  
PN: B164B-003B

Troubleshooting

- A. One of the display does not show a picture or output audio.
- Q. Check the displays input setting to ensure it is set to receive a signal from the connected HDMI port.
- Q. One or more of the connected displays will not display a picture while one or more of the displays do display a picture:
- A1. Turn off the power to the matrix, source and displays. Wait 1 minute. Turn the source on. Turn the displays on. Turn the matrix on.

...troubleshooting continued

- A2. The HDMI cables on the non-funktional display/s cannot support their long length. Use only high-quality High Speed HDMI cables. Keep the cable length as short as possible. Test by locating the non-working display close to the matrix. Use a short HDMI cable to connect the matrix to the TV. A working TV using a short HDMI cable indicates an issue with the HDMI cable.
- Q. Get the message "This protocol is not supported" or other error message.
- A. See answer A1 above and repeat the steps outlined.
- Q. The matrix is not down sampling the video and some of the TV's are not displaying a picture.
- A1. Go into the TV's setup and configure the resolution to match all the connected TV's. The TV's should share the same resolution.
- A2. In the source devices menu options set the source device to output a resolution that matches all the connected displays.
- Q. My TV's resolution are not optimized.
- A. The matrix will query the displays and provide the highest common video resolution amongst them. Example: Using a 1080p source, if 3 of the displays support a maximum resolution of 1080p and 1 display supports a maximim resolution of 720p, all 4 display will operate at a resolution of 720p. If the 720p TV in the example is then turned off, the other 3 displays can then operate in 1080p resolution. Turn Off then turn On the matrix to refresh the configuration. The three 1080p TV's will refresh (flicker) then each will display a 1080p picture.

Support

**ASSISTANCE: Questions regarding this product or its product warranty**, please check out our Web site at: [www.accellcables.com](http://www.accellcables.com). Customer service can be reached by email at [support@accellcables.com](mailto:support@accellcables.com) or phone at 510-438-9288, toll free 877-353-0772 (M-F 9am-5pm PST).

1-YEAR MANUFACTURERS WARRANTY

The Accell UltraAV Matrix is warranted for one year from date of purchase to be free of defects in material and workmanship. In the event of such defects, the Accell product will be repaired without charge or replaced with a new one at our option, if delivered to Accell Corporation prepaid, together with a copy of the sales receipt indicating the proof of purchase date and place of purchase. This warranty excludes defects due to normal wear, abuse, shipping damage, or failure to use the product in accordance with the instructions. **ACCELL CORPORATION SHALL NOT BE LIABLE FOR DAMAGES BASED UPON INCONVENIENCE, LOSS OF USE OF THE PRODUCT, LOSS OF TIME, INTERRUPTED OPERATION OR COMMERCIAL LOSS, OR ANY OTHER DAMAGES, WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE. YOU AGREE THAT ACCELL'S MAXIMUM LIABILITY ARISING FROM ANY PRODUCT SOLD BY ACCELL SHALL NOT EXCEED THE PRICE OF SUCH PRODUCT. SOME JURISDICTIONS DO NOT ALLOW THE LIMITATION OF EXCLUSION OF LIABILITY FOR CERTAIN DAMAGES, SO THE ABOVE MAY NOT APPLY TO YOU TO THE EXTENT SUCH JURISDICTION'S LAW IS APPLICABLE TO THIS AGREEMENT.** This warranty gives you specific legal rights, and you may have other rights that vary from state to state.

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WARRANTY RETURNS PROCEDURE

Contact Customer Support to obtain a Return Authorization (RMA) number. RMA numbers are valid for 30 days from the date of issuance. We are unable to accept returns without an RMA number. Returns without an RMA number clearly printed on the outside of the package will be refused and returned unopened. All returns must be shipped prepaid at the expense of the shipper.

Accell assumes no responsibility for any inaccuracies and liability for direct, indirect, special, incidental, or consequential damages as a result. Due to ongoing improvements, Accell reserves the right to make changes to hardware, packaging and any accompanying documentation without prior written notice.

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